

REMARKS

Claims 13-23 are currently pending. Non-elected apparatus claims 1-12 have been canceled without prejudice or disclaimer to the filing of a divisional application. Applicants note with appreciation the indication of allowable subject matter in claims 15, 17, 20 and 22. Applicants respectfully submit that claims 13, 14, 16, 18, 19, 21 and 23 are also in condition for allowance. Claims 13 and 18 are amended to incorporate the definition of "tension member" from the specification into the claim, although this meaning was already present, as these claims would have been interpreted by one skilled in the art in reading the claims in the context of the present application.

The Office Action includes a rejection of claims 13, 14, 16, 18, 19 and 21 under 35 U.S.C. §102(e) as allegedly being anticipated by the Seon et al patent publication (US 2004/0145298). This rejection is respectfully traversed.¹

The present invention as recited in claim 13 recites, among other steps, thermally expanding a substrate on which a field emission array is formed as well as a mesh grid that is to be fixed to the substrate. The method then fixes the thermally-expanded mesh grid onto the substrate using a tension member. The tension member, as defined in the present application such as in original claim 1, is a member that applies a tensile force to the mesh grid. Then, the substrate and the mesh grid are cooled to room temperature. This process results in a mesh grid that is not deformed in exemplary embodiments.

¹ It appears from the accompanying comments that claim 23 was to be included with the rejection.

In marked contrast to the present invention, the Seon et al patent publication discloses with reference to Figure 6, a spacer 43 which comprises horizontal portions 43a extended in a longitudinal direction of the anode 53 and a vertical portion 43b extending perpendicularly to the horizontal portion 43. Vertical portion 43b is inserted into through holes 59 of a mesh grid 50. Both ends of the vertical portion 43b contact the inner surface of the front substrate and rear surface. However, this spacer does not provide any tensile force to the mesh grid. It simply acts as a spacer.

The Office Action also points to the heating steps identified in paragraphs 0067 through 0069 of the Seon et al. patent publication. In these paragraphs, the mesh grid is said to be pre-fired to prevent deformation of the mesh grid in subsequent processes. It is then coated with an insulating material and then the next grid is bound to the substrate by the melting of a frit. Frits are simply powdered ceramic prepared by fusing a physical mixture of oxides into a uniform melt, which is then polished and milled into a fine homogenous powder and, presumably, remelted to bind the mesh grid to the rear substrate. It would, however, not act as a tension member, nor would it apply tensile force to the mesh grid. In fact, it is apparent that the Seon et al patent applies a different method for preventing deformations and therefore neither teaches nor suggests a modification that would result in the present invention.


In light of the foregoing, applicants respectfully request reconsideration and allowance of the independent claims. The dependent claims are believed to provide additional grounds for distinction, but those distinctions will not be discussed for sake of brevity.

In any event, applicants respectfully request issuance of a Notice of Allowance in the present application so that it may pass to issuance.

Respectfully submitted,

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